**K-Means Algorithm Important Points**

K-Means clustering algorithm instead converses on local minima which might also correspond to the global minima in some cases but not always. Therefore, it’s advised to run the K-Means algorithm multiple times before drawing inferences about the clusters. However, note that it’s possible to receive the same clustering results from K-means by setting the same seed value for each run. But that is done by simply making the algorithm choose the set of the same random number for each run.

Out of the given options, elbow method is used for finding the optimal number of clusters. The elbow method looks at the percentage of variance explained as a function of the number of clusters: One should choose a number of clusters so that adding another cluster doesn’t give much better modeling of the data.

Feature scaling ensures that all the features get the same weight in the clustering analysis. Consider a scenario of clustering people based on their weight (KG) with range 55-110 and height (inches) with range 5.6 to 6.4. In this case, the clusters produced without scaling can be very misleading as the range of weight is much higher than that of height. Therefore, it's necessary to bring them to the same scale so that they have equal weight on the clustering result.